

Solid State Oxygen Concentrator and Compressor, Phase I

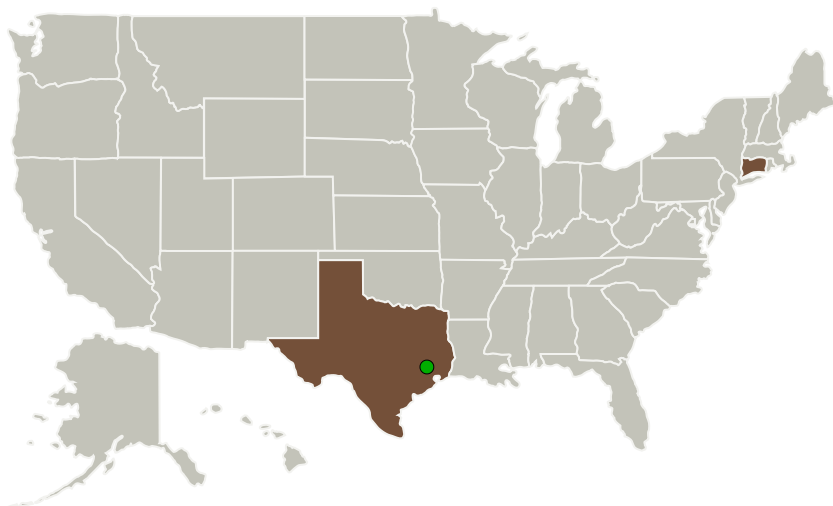
Completed Technology Project (2017 - 2017)



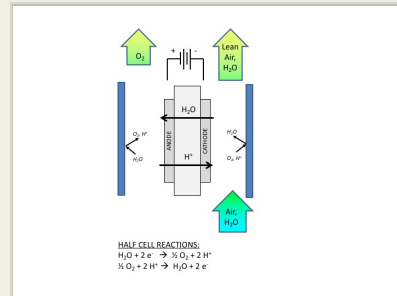
Project Introduction

Sustainable Innovations has developed a novel solid state technology for gas separation and will be applying it for the first time to meet a critical life support function: to develop an oxygen concentration module that minimize the hardware mass, volume, and power footprint while still performing at the required NASA capabilities. The Sustainable Innovations Oxygen Concentration Module is an extension of our proven H₂ concentration, generation and compression technology that we are currently developing for NASA applications, including several configurations specifically designed for operation in Zero Gravity. This cell hardware has been demonstrated in mock zero and negative gravity on the bench-top and is currently being scaled for greater throughput applications.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Skyre Inc	Lead Organization	Industry Small Disadvantaged Business (SDB)	
● Johnson Space Center(JSC)	Supporting Organization	NASA Center	Houston, Texas



Solid State Oxygen Concentrator and Compressor, Phase I Briefing Chart Image

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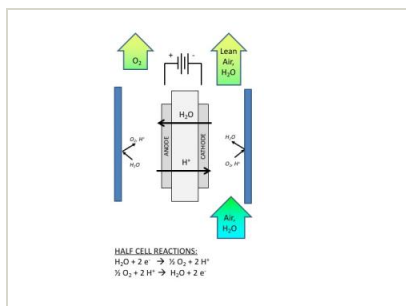


Primary U.S. Work Locations

Connecticut

Texas

Images



Briefing Chart Image

Solid State Oxygen Concentrator and Compressor, Phase I Briefing Chart Image

(<https://techport.nasa.gov/image/135635>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Skyre Inc

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

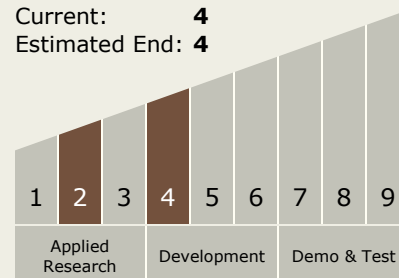
Trent Molter

Technology Maturity (TRL)

Start: 2

Current: 4

Estimated End: 4



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Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
 - └ TX06.1 Environmental Control & Life Support Systems (ECLSS) and Habitation Systems
 - └ TX06.1.1 Atmosphere Revitalization